Listing of Claims:

1. (Currently Amended) A method for processing image signals, comprising:

reading an image recorded on a recording medium so as to generate image signals representing said image;

5 applying, to said image signals, a multi-resolution conversion processing of at least level 1, which is capable of reducing an image size of said image signals, so as to generate first-converted image signals from said image signals; and

applying a Dyadic Wavelet transform of at least level 1 to

10 ~~low~~ lowest frequency band component signals included in said first-converted image signals, so as to generate second-converted image signals from said first-converted image signals;

wherein no down-sampling is performed in said Dyadic Wavelet transform, and wavelet function $\Psi_{i,j}(x)$ to be employed in said

15 Dyadic Wavelet transform is defined by an equation shown below:

$$\psi_{i,j}(x) = 2^{-i}\,\psi\left(\frac{x-j}{2^{i}}\right)$$

where "i" denotes a natural number; and

wherein an image size of said first-converted image signals is smaller than the image size of said image signals, while an image size of said second-converted image signals is identical to

20 the image size of said first-converted image signals.

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2.   (Previously Presented) The method of claim 1, further

comprising:

applying a first image processing to said second-converted

image signals generated by applying said Dyadic Wavelet

transform.

3.   (Previously Presented) The method of claim 1, further

comprising:

applying a first image processing to high frequency band

component signals included in said second-converted image signals

generated by applying said Dyadic Wavelet transform.

4.   (Previously Presented) The method of claim 3, wherein

said first image processing comprises suppressing a signal

intensity of a specific pixel, which fulfils a predetermined

condition established in advance among pixels represented by said

high frequency band component signals.

5.   (Previously Presented) The method of claim 2, further

comprising:

applying a second image processing to said first-converted

image signals generated by applying said multi-resolution

conversion processing.

6.   (Previously Presented) The method of claim 2, further

comprising:

applying a second image processing to high frequency band

component signals included in said first-converted image signals

5   generated by applying said multi-resolution conversion

processing.

7.   (Previously Presented) The method of claim 6, wherein

said second image processing comprises suppressing a signal

intensity of a specific pixel, which fulfils a predetermined

condition established in advance among pixels represented by said

5   high frequency band component signals.

8.   (Previously Presented) The method of claim 1, wherein

said multi-resolution conversion is an orthogonal wavelet

conversion or a bi-orthogonal wavelet conversion.

9.   (Previously Presented) The method of claim 1, further

comprising:

determining a changeover level from said multi-resolution

conversion processing to said Dyadic Wavelet transform, based on

5   a resolution of said read image signals;

wherein said multi-resolution conversion processing is

applied to said image signals according to said determined

changeover level, and said Dyadic Wavelet transform is applied to

said low frequency band component signals according to said

10   determined changeover level determined.

      10.   (Currently Amended) An apparatus for processing image

signals, comprising:

      a reading section to read an image recorded on a recording

medium so as to generate image signals representing said image;

5   a first converting section to apply a multi-resolution

conversion processing of at least level 1, which is capable of

reducing an image size of said image signals, to said image

signals read by said reading section, so as to generate

first-converted image signals from said image signals; and

10   a second converting section to apply a Dyadic Wavelet

transform of at least level 1 to low frequency band component

signals included in said first-converted image signals generated

by said first converting section, so as to generate

second-converted image signals from said first-converted image

15   signals;

      wherein no down-sampling is performed in said Dyadic Wavelet

transform, and wavelet function $\Psi_{i,j}$ (x) to be employed in said

Dyadic Wavelet transform is defined by an equation shown below:

$$\psi_{i,j}(x) = 2^{-i}\, \psi\left(\frac{x-j}{2^{i}}\right)$$

20   where "i" denotes a natural number; and

wherein an image size of said first-converted image signals

is smaller than the image size of said image signals, while an

image size of said second-converted image signals is identical to

the image size of said first-converted image signals.

11.   (Original) The apparatus of claim 10, further

comprising:

a first image-processing section to apply a first image

processing to said second-converted image signals generated by

said second converting section.

12.   (Original) The apparatus of claim 10, further

comprising:

a first image-processing section to apply a first image

processing to high frequency band component signals included in

5   said second-converted image signals generated by said second

converting section.

13.   (Previously Presented) The apparatus of claim 12,

wherein said first image processing comprises suppressing a

signal intensity of a specific pixel, which fulfils a

predetermined condition established in advance among pixels

5   represented by said high frequency band component signals.

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14.   (Original) The apparatus of claim 11, further

comprising:

a second image-processing section to apply a second image

processing to said first-converted image signals generated by

said first converting section.

15.   (Original) The apparatus of claim 11, further

comprising:

a second image-processing section to apply a second image

processing to high frequency band component signals included in

5   said first-converted image signals generated by said first

converting section.

16.   (Previously Presented) The apparatus of claim 15,

wherein said second image processing comprises suppressing a

signal intensity of a specific pixel, which fulfils a

predetermined condition established in advance among pixels

5   represented by said high frequency band component signals.

17.   (Original) The apparatus of claim 10, wherein said

multi-resolution conversion is an orthogonal wavelet conversion

or a bi-orthogonal wavelet conversion.

18.   (Original) The apparatus of claim 10, further

comprising:

a determining section to determine a changeover level from

said multi-resolution conversion processing to said Dyadic

5   Wavelet transform, based on a resolution of said image signals

read by said reading section;

wherein said first converting section applies said

multi-resolution conversion processing to said image signals

according to said changeover level determined by said determining

10   section, and said second converting section applies said Dyadic

Wavelet transform to said low frequency band component signals

according to said changeover level determined by said determining

section.

19.   (Currently Amended) A computer readable storage medium

storing a computer program that is executable by a computer to

cause the computer to conduct operations for processing image

signals, the program being executable by [[a]] the computer to

5   cause the computer to perform a process comprising:

reading an image recorded on a recording medium so as to

generate image signals representing said image;

applying, to said read image signals, a multi-resolution

conversion processing of at least level 1, which is capable of

10   reducing an image size of said image signals, so as to generate

first-converted image signals from said image signals; and

applying a Dyadic Wavelet transform of at least level 1 to

low frequency band component signals included in said

first-converted image signals, so as to generate second-converted

15   image signals from said first-converted image signals;

wherein no down-sampling is performed in said Dyadic Wavelet

transform, and wavelet function $\Psi_{i,j}$ (x) to be employed in said

Dyadic Wavelet transform is defined by an equation shown below:

$$\psi_{i,j}(x) = 2^{-i}\ \psi\left(\frac{x-j}{2^i}\right)$$

where "i" denotes a natural number; and

20   wherein an image size of said first-converted image signals

is smaller than the image size of said image signals, while an

image size of said second-converted image signals is identical to

the image size of said first-converted image signals.

20.   (Previously Presented) The computer readable storage

medium of claim 19, wherein the process further comprises:

applying a first image processing to said second-converted

image signals generated by applying said Dyadic Wavelet

5   transform.

21.   (Previously Presented) The computer readable storage
medium of claim 19, wherein the process further comprises:
applying a first image processing to high frequency band
component signals included in said second-converted image signals
generated by applying said Dyadic Wavelet transform.

22.   (Previously Presented) The computer readable storage
medium of claim 21, wherein said first image processing comprises
suppressing a signal intensity of a specific pixel, which fulfils
a predetermined condition established in advance among pixels
represented by said high frequency band component signals.

23.   (Previously Presented) The computer readable storage
medium of claim 20, wherein the process further comprises:
applying a second image processing to said first-converted
image signals generated by applying said multi-resolution
conversion processing.

24.   (Previously Presented) The computer readable storage
medium of claim 20, wherein the process further comprises:
applying a second image processing to high frequency band
component signals included in said first-converted image signals
generated by applying said multi-resolution conversion
processing.

25.   (Previously Presented) The computer readable storage medium of claim 24, wherein said second image processing comprises suppressing a signal intensity of a specific pixel, which fulfils a predetermined condition established in advance among pixels represented by said high frequency band component signals.

26.   (Previously Presented) The computer readable storage medium of claim 19, wherein said multi-resolution conversion is an orthogonal wavelet conversion or a bi-orthogonal wavelet conversion.

27.   (Previously Presented) The computer readable storage medium of claim 19, wherein the process further comprises:
        determining a changeover level from said multi-resolution conversion processing to said Dyadic Wavelet transform, based on a resolution of said read image signals;
        wherein said multi-resolution conversion processing is applied to said image signals according to said determined changeover level, and said Dyadic Wavelet transform is applied to said low frequency band component signals according to said determined changeover level.

28.   (Currently Amended) An apparatus for recording an

output image onto an outputting medium, comprising:

a reading section to read an image formed on a recording

medium so as to generate image signals representing said image;

5   a processing section to process said image signals so as to

generate output image signals representing said output image; and

a recording section to record said output image onto said

outputting medium, based on said output image signals generated

by said processing section;

10   wherein said processing section comprises:

a first converting section to apply a multi-resolution

conversion processing of at least level 1, which is capable of

reducing an image size of said image signals, to said image

signals read by said reading section, so as to generate

15   first-converted image signals from said image signals; and

a second converting section to apply a Dyadic Wavelet

transform of at least level 1 to low frequency band component

signals included in said first-converted image signals generated

by said first converting section, so as to generate

20   second-converted image signals from said first-converted image

signals;

wherein no down-sampling is performed in said Dyadic Wavelet

transform, and wavelet function $\Psi_{i,j}$ (x) to be employed in said

Dyadic Wavelet transform is defined by an equation shown below:

$$\Psi_{i,j}(x) = 2^{-i} \, \psi \left(\frac{x - j}{2^{i}} \right)$$

where "i" denotes a natural number; and

wherein an image size of said first-converted image signals

is smaller than the image size of said image signals, while an

image size of said second-converted image signals is identical to

the image size of said first-converted image signals.

29.   (Previously Presented) The apparatus of claim 28,

wherein said processing section further comprises:

a first image-processing section to apply a first image

processing to said second-converted image signals generated by

said second converting section.

30.   (Previously Presented) The apparatus of claim 28,

wherein said processing section further comprises:

a first image-processing section to apply a first image

processing to high frequency band component signals included in

said second-converted image signals generated by said second

converting section.

31. (Previously Presented) The apparatus of claim 30,
wherein said first image processing comprises suppressing a
signal intensity of a specific pixel, which fulfils a
predetermined condition established in advance among pixels
5   represented by said high frequency band component signals.

32. (Previously Presented) The apparatus of claim 29,
wherein said processing section further comprises:

a second image-processing section to apply a second image
processing to said first-converted image signals generated by
5   said first converting section.

33. (Previously Presented) The apparatus of claim 29,
wherein said processing section further comprises:

a second image-processing section to apply a second image
processing to high frequency band component signals included in
5   said first-converted image signals generated by said first
converting section.

34. (Previously Presented) The apparatus of claim 33,
wherein said second image processing comprises suppressing a
signal intensity of a specific pixel, which fulfils a
predetermined condition established in advance among pixels
5   represented by said high frequency band component signals.

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35.   (Original) The apparatus of claim 28, wherein said
multi-resolution conversion is an orthogonal wavelet conversion
or a bi-orthogonal wavelet conversion.

36.   (Previously Presented) The apparatus of claim 28,
wherein said processing section further comprises:

a determining section to determine a changeover level from
said multi-resolution conversion processing to said Dyadic

5   Wavelet transform, based on a resolution of said image signals
read by said reading section;

wherein said first converting section applies said
multi-resolution conversion processing to said image signals
according to said changeover level determined by said determining

10   section, and said second converting section applies said Dyadic
Wavelet transform to said low frequency band component signals
according to said changeover level determined by said determining
section.